



# STIC Search Report

EIC 1700

STIC Database Tracking Number: 190302

**TO:** Satya Sastri  
**Location:** REM 10A30  
**Art Unit :** 1713  
**May 24, 2006**

**From:** Usha Shrestha  
**Location:** EIC 1700  
**REMSEN 4B28**  
**Phone:** 571/272-3519  
**usha.shrestha@uspto.gov**

**Case Serial Number:** 10/628253

Search Notes



# STIC Search Results Feedback Form

EIC 1700

Questions about the scope or the results of the search? Contact the EIC searcher or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

> I am an examiner in Workgroup:  Example: 1713

> Relevant prior art found, search results used as follows:

- 102 rejection
- 103 rejection
- Cited as being of interest.
- Helped examiner better understand the invention.
- Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- Foreign Patent(s)
- Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

> Relevant prior art not found:

- Results verified the lack of relevant prior art (helped determine patentability)
- Results were not useful in determining patentability or understanding the invention

Comments:

Banks, Kendra

190302

**From:** SATYA SASTRI [satya.sastri@uspto.gov]  
**Sent:** Wednesday, May 17, 2006 2:37 PM  
**To:** STIC-EIC1700  
**Subject:** Database Search Request, Serial Number: 10/628,253

**Requester:**  
SATYA SASTRI (P/1713)

**Art Unit:**  
GROUP ART UNIT 1713

**Employee Number:**  
79815

**Office Location:**  
REM 10A30

**Phone Number:**  
(571)272-1112

**Mailbox Number:**

**Case serial number:**  
10/628,253

**Class / Subclass(es):**

**Earliest Priority Filing Date:**  
8/1/02

**Format preferred for results:**  
Paper

**Search Topic Information:**

A material comprising, polymers of pentaerythitol acrylate or dipentaerythitol acrylates as given by formulas II and I in claim 1. Please note that structures I and II may have all R's as acrylate or at least one R as acrylate with all in between possibilites.

**Special Instructions and Other Comments:**

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr

MAY 17 REC'D

Pat. & T.M. Office



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)



CONFIRMATION NO. 5432

Bib Data Sheet

| SERIAL NUMBER<br>10/628,253 | FILING OR 371(c)<br>DATE<br>07/29/2003<br>RULE | CLASS<br>524 | GROUP ART UNIT<br>1713 | ATTORNEY<br>DOCKET NO.<br>123034-05004829 |
|-----------------------------|--|--------------|------------------------|---|
|-----------------------------|--|--------------|------------------------|---|

**APPLICANTS**

Gi Heon Kim, Daejon-Shi, KOREA, REPUBLIC OF;  
 Ji Young Oh, Daejon-Shi, KOREA, REPUBLIC OF;  
 Yong Suk Yang, Busan-Shi, KOREA, REPUBLIC OF;  
 Jeong Ik Lee, Daejon-Shi, KOREA, REPUBLIC OF;  
 Lee Mi Do, Daejon-Shi, KOREA, REPUBLIC OF;  
 Tae Hyoung Zyung, Daejon-Shi, KOREA, REPUBLIC OF;

**\*\* CONTINUING DATA \*\*\*\*\*****\*\* FOREIGN APPLICATIONS \*\*\*\*\***

REPUBLIC OF KOREA 2002-45479 08/01/2002  
 REPUBLIC OF KOREA 2003-47638 07/12/2003

**IF REQUIRED, FOREIGN FILING LICENSE GRANTED \*\* SMALL ENTITY \*\***

\*\* 10/29/2003

|                                 |   |   |                        |                    |                         |
|---------------------------------|---|---|------------------------|--------------------|-------------------------|
| Foreign Priority claimed        | <input type="checkbox"/> yes <input type="checkbox"/> no  | STATE OR COUNTRY<br>KOREA,<br>REPUBLIC OF | SHEETS<br>DRAWING<br>1 | TOTAL CLAIMS<br>12 | INDEPENDENT CLAIMS<br>3 |
| 35 USC 119 (a-d) conditions met | <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance |   |                        |                    |                         |
| Verified and Acknowledged       | Examiner's Signature  | Initials                                  |                        |                    |                         |

**ADDRESS**

43569

**TITLE**

Thin film material using pentaerythritol acrylate for encapsulation of organic or polymeric light emitting device, and encapsulation method for LED using the same

|                            |   |  |
|----------------------------|---|--|
| FILING FEE RECEIVED<br>375 | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: | <input type="checkbox"/> All Fees                              |
|                            |   | <input type="checkbox"/> 1.16 Fees ( Filing )                  |
|                            |   | <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) |
|                            |   | <input type="checkbox"/> 1.18 Fees ( Issue )                   |
|                            |   | <input type="checkbox"/> Other _____                           |
|                            |   | <input type="checkbox"/> Credit                                |

## ABSTRACT

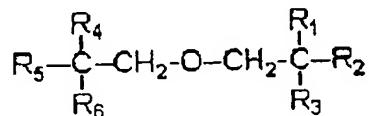
The present invention is directed to a thin film material for encapsulation of organic or polymeric light-emitting electric device having light-emitting layer between cathode and anode, for elongation of lifetime of said device and for providing said device with flexibility, more specifically, to a thin film material for encapsulation of organic or polymeric light-emitting electric device comprising polymer having, as repeating unit of backbone, homo-, 2-component co-, ter-, or tetra-polymer of one to four pentaerythritol acrylate monomer, or physically mixed polymer blend of said polymer and polymers other than poly(pentaerythritol acrylate).

Moreover, the present invention is directed to a method for encapsulation of organic or polymeric light-emitting device using said thin film material consisting of wet and dry process.

The light-emitting device encapsulated according to the present invention can be bonded and can be used in the manufacturing of large surface area display.

**WHAT IS CLAIMED IS:**

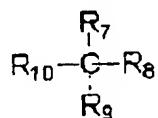
1. A material for thin film encapsulating an organic or polymeric light emitting device, characterized in that said material comprises
- 5 poly(pentaerythritol acrylate) resulted from the polymerization of pentaerythritol acrylate monomer represented by the following formula I or II:



(I)

wherein:

- 10 R1, R2, R3, R4, R5, and R6 are  $-CH_2-O-C(=O)-CH-CH_2$ ; R1, R2, R3, R4, and R5 are  $-CH_2-O-C(=O)-CH-CH_2$ , and R6 is  $-CH_2OH$ ; R1, R2, R3, and R4 are  $-CH_2-O-C(=O)-CH-CH_2$  and R5, and R6 are  $-CH_2OH$ ; R1, R2, and R3 are  $-CH_2-O-C(=O)-CH-CH_2$ , R4, R5, and R6 are  $-CH_2OH$ ; or R1, and R2 are  $-CH_2-O-C(=O)-CH-CH_2$ , R3, R4, R5, and R6 are  $-CH_2OH$ :



(II)

wherein:

at least one of R7, R8, R9, and R10 is  $-CH_2-O-C(=O)-CH-CH_2$ , and the remainings are  $-CH_2OH$ .

2. The material for thin film encapsulating an organic or polymeric light emitting device as claimed in claim 1, characterized in that said poly (pentaerythrithol acrylate) is homo-, 2-component co-, ter- or tetra-polymers consisting of 1 to 4 pentaerythrithol acrylate monomer represented by the  
5 following formula I or II.

3. The material for thin film encapsulating an organic or polymeric light emitting device as claimed in claim 1, characterized in that said material is physically mixed polymer blend further comprising polymers other than poly(pentaerythrithol acrylate).

10 4. The material for thin film encapsulating an organic or polymeric light emitting device as claimed in one of the claim 1, characterized in that said material further comprises at least one moisture absorbent selected from the group consisting of silica gel, zeolite, magnesium and alkali metal.

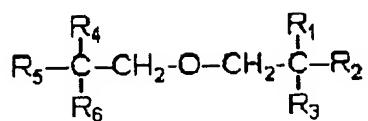
5. The material for thin film encapsulating an organic or polymeric  
15 light emitting device as claimed in one of the claim 2, characterized in that said material further comprises at least one moisture absorbent selected from the group consisting of silica gel, zeolite, magnesium and alkali metal.

6. The material for thin film encapsulating an organic or polymeric light emitting device as claimed in one of the claim 3, characterized in that  
20 said material further comprises at least one moisture absorbent selected from the group consisting of silica gel, zeolite, magnesium and alkali metal.

7. A encapsulation method for an organic or polymeric light emitting device, comprising following steps:

(a) preparing a mixture of one to four pentaerythrithol acrylate monomer

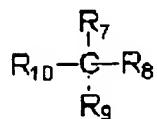
represented by the following formula I or II and polymerization initiator, by mixing:



(I)

5 wherein:

R1, R2, R3, R4, R5, and R6 are  $-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{CH}-\text{CH}_2$ ; R1, R2, R3, R4, and  
R5 are  $-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{CH}-\text{CH}_2$ , and R6 is  $-\text{CH}_2\text{OH}$ ; R1, R2, R3, and R4 are  
 $-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{CH}-\text{CH}_2$  and R5, and R6 are  $-\text{CH}_2\text{OH}$ ; R1, R2, and R3 are  
 $-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{CH}-\text{CH}_2$ , R4, R5, and R6 are  $-\text{CH}_2\text{OH}$ ; or R1, and R2 are  
10  $-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{CH}-\text{CH}_2$ , R3, R4, R5, and R6 are  $-\text{CH}_2\text{OH}$ :



(II)

wherein:

at least one of R7, R8, R9, and R10 is  $-\text{CH}_2-\text{O}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{CH}-\text{CH}_2$ , and the  
15 remainings are  $-\text{CH}_2\text{OH}$ ;

(b) coating said mixture on the surface of the organic or polymeric light emitting device by spin coating process, bar coating process, spreading process or simple immersion process; and,

(c) polymerizing said monomer.

20 8. The encapsulation method for an organic or polymeric light emitting

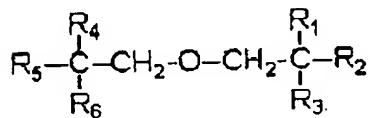
device as claimed in claim 7, characterized in that said mixture further comprises polymers other than poly(pentaerythrithol acrylate).

9. The encapsulation method for an organic or polymeric light emitting device as claimed in claim 5, characterized in that said mixture further 5 comprises at least one moisture absorbent selected from the group consisting of silica gel, zeolite, magnesium and alkali metal.

10. The encapsulation method for an organic or polymeric light emitting device as claimed in claim 6, characterized in that said mixture further comprises at least one moisture absorbent selected from the group consisting of 10 silica gel, zeolite, magnesium and alkali metal.

11. A encapsulation method for an organic or polymeric light emitting device, comprising the steps:

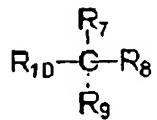
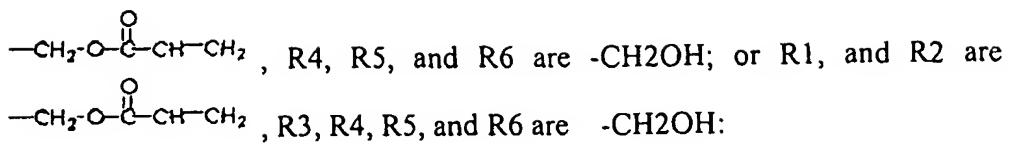
(a) preparing a mixture of one to four pentaerythrithol acrylate monomer represented by the following formula I or II and polymerization initiator, by 15 mixing:



(I)

wherein:

R1, R2, R3, R4, R5, and R6 are  $-CH_2-O-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-(CH_2)_2$ ; R1, R2, R3, R4, and 20 R5 are  $-CH_2-O-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-(CH_2)_2$ , and R6 is -CH<sub>2</sub>OH; R1, R2, R3, and R4 are  $-CH_2-O-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-(CH_2)_2$  and R5, and R6 are -CH<sub>2</sub>OH; R1, R2, and R3 are



(II)

wherein:

5 at least one of R7, R8, R9, and R10 is  $\text{--CH}_2\text{--O--C(=O)--CH--CH}_2$ , and the remainings are -CH<sub>2</sub>OH;

(b) coating said mixture on the surface of the organic or polymeric light emitting device by physical vapor deposition method or chemical vapor deposition method; and,

10 (c) polymerizing said monomer.

12. The encapsulation method for an organic or polymeric light emitting device as claimed in claim 11, characterized in that said mixture further comprises polymers other than poly(pentaerythritol acrylate).

=> fil reg  
FILE 'REGISTRY' ENTERED AT 08:43:07 ON 24 MAY 2006

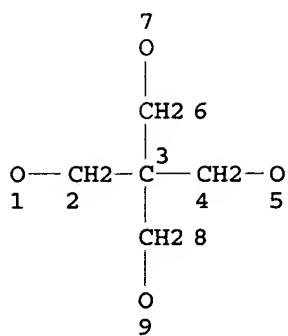
=> d his ful

FILE 'HCAPLUS' ENTERED AT 07:49:27 ON 24 MAY 2006  
L1 1 SEA ABB=ON PLU=ON US20040024105/PN.

FILE 'REGISTRY' ENTERED AT 07:49:48 ON 24 MAY 2006  
L2 2 SEA ABB=ON PLU=ON (374750-37-5/BI OR 92625-64-4/BI)  
E PENTAERYTHRITHOL ACRYLATE/CN  
L3 2 SEA ABB=ON PLU=ON (PENTAERYTHRITHIOL/CN OR PENTAERYTH  
RITOL/CN)  
L4 STR  
L5 STR  
L6 SCR 2043  
L7 50 SEA SSS SAM L4 AND L5 AND L6  
L8 11400 SEA SSS FUL L4 AND L5 AND L6  
L9 1 SEA ABB=ON PLU=ON L8 AND L2  
L10 1523 SEA ABB=ON PLU=ON L8 AND 2/NC  
SAV L8 SAS253/A

FILE 'HCAPLUS' ENTERED AT 08:01:44 ON 24 MAY 2006  
L11 2227 SEA ABB=ON PLU=ON L10  
L12 387 SEA ABB=ON PLU=ON L11(L)DEV/RL  
L13 91 SEA ABB=ON PLU=ON L12 AND OPTIC?/SC  
L14 1 SEA ABB=ON PLU=ON L13 AND L1  
L15 591468 SEA ABB=ON PLU=ON LUM!N? OR ORGANOLUM!N? OR (ELECTRO  
OR ORGANO OR ORG#) (2A)LUM!N? OR LIGHT?(2A)(EMIT? OR  
EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR OLED OR LED  
L16 5 SEA ABB=ON PLU=ON L13 AND L15  
L17 1 SEA ABB=ON PLU=ON L13 AND POTTING(2A)COMPOSITION?  
L18 77 SEA ABB=ON PLU=ON L13 AND (?FILM? OR ?LAYER? OR  
COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR OVERSPREAD?  
OR ENCAPS?)  
L19 8 SEA ABB=ON PLU=ON L18 AND PROC/RL  
L20 11 SEA ABB=ON PLU=ON L14 OR L16 OR L17 OR L19  
L21 10 SEA ABB=ON PLU=ON L20 AND P/DT  
L22 10 SEA ABB=ON PLU=ON L21 AND (1907-2002)/PRY,AY  
L23 1 SEA ABB=ON PLU=ON L20 NOT L21  
L24 0 SEA ABB=ON PLU=ON L23 NOT (2003-2006)/PY  
L25 10 SEA ABB=ON PLU=ON L22 OR L24  
L26 69 SEA ABB=ON PLU=ON L18 NOT L25  
L27 7 SEA ABB=ON PLU=ON L26 AND COMPOSITION?  
L28 7 SEA ABB=ON PLU=ON L27 AND P/DT  
L29 5 SEA ABB=ON PLU=ON L28 AND (1907-2002)/PRY,AY  
L30 15 SEA ABB=ON PLU=ON L25 OR L29

=> d que 130  
L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US20040024105/PN  
L4 STR



## NODE ATTRIBUTES:

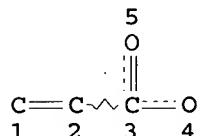
DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 9

## STEREO ATTRIBUTES: NONE

L5                    STR



## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 5

## STEREO ATTRIBUTES: NONE

L6                    SCR 2043

|     |   |
|-----|---|
| L8  | 11400 SEA FILE=REGISTRY SSS FUL L4 AND L5 AND L6  |
| L10 | 1523 SEA FILE=REGISTRY ABB=ON PLU=ON L8 AND 2/NC  |
| L11 | 2227 SEA FILE=HCAPLUS ABB=ON PLU=ON L10   |
| L12 | 387 SEA FILE=HCAPLUS ABB=ON PLU=ON L11(L)DEV/RL   |
| L13 | 91 SEA FILE=HCAPLUS ABB=ON PLU=ON L12 AND OPTIC?/SC   |
| L14 | 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND L1   |
| L15 | 591468 SEA FILE=HCAPLUS ABB=ON PLU=ON LUM!N? OR ORGANOLUM!N?<br>OR (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N? OR LIGHT?(2A)<br>(EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR<br>OLED OR LED |
| L16 | 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND L15  |
| L17 | 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND POTTING(2A)COM<br>POSITION?  |
| L18 | 77 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND (?FILM? OR<br>?PLAYER? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR<br>OVERSPREAD? OR ENCAPS?)   |
| L19 | 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND PROC/RL  |
| L20 | 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L14 OR L16 OR L17 OR  |

L19  
L21 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND P/DT  
L22 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND (1907-2002)/PR  
Y,AY  
L23 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 NOT L21  
L24 0 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 NOT (2003-2006)/PY  
  
L25 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 OR L24  
L26 69 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 NOT L25  
L27 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND COMPOSITION?  
L28 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND P/DT  
L29 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND (1907-2002)/PR  
Y,AY  
L30 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 OR L29

=> fil hcap  
FILE 'HCAPLUS' ENTERED AT 08:43:22 ON 24 MAY 2006  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 24 May 2006 VOL 144 ISS 22  
FILE LAST UPDATED: 23 May 2006 (20060523/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 130 1-15 ibib abs hitstr hitind

L30 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2004:509038 HCAPLUS  
DOCUMENT NUMBER: 141:79098  
TITLE: Organic electroluminescent device and encapsulation method  
INVENTOR(S): McCormick, Fred B.; Ottman, Jon E.; Padiyath, Raghunath  
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA  
SOURCE: U.S. Pat. Appl. Publ., 19 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO. | KIND  | DATE  | APPLICATION NO. | DATE  |
|------------|-------|-------|-----------------|-------|
| -----      | ----- | ----- | -----           | ----- |

-----

|                        |  |          |                  |      |
|------------------------|--|----------|------------------|------|
| US 2004119403          | A1   | 20040624 | US 2002-324585   |      |
|                        |  |          |                  | 2002 |
|                        |  |          |                  | 1219 |
| <--                    |  |          |                  |      |
| US 6975067             | B2   | 20051213 |                  |      |
| WO 2004061992          | A1   | 20040722 | WO 2003-US32378  |      |
|                        |  |          |                  | 2003 |
|                        |  |          |                  | 1010 |
| <--                    |  |          |                  |      |
| W:                     | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,<br>CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES,<br>FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,<br>KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,<br>MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO,<br>RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ,<br>UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW |          |                  |      |
| RW:                    | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,<br>AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,<br>DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,<br>PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,<br>GQ, GW, ML, MR, NE, SN, TD, TG   |          |                  |      |
| AU 2003277364          | A1   | 20040729 | AU 2003-277364   |      |
|                        |  |          |                  | 2003 |
|                        |  |          |                  | 1010 |
| <--                    |  |          |                  |      |
| EP 1579517             | A1   | 20050928 | EP 2003-814603   |      |
|                        |  |          |                  | 2003 |
|                        |  |          |                  | 1010 |
| <--                    |  |          |                  |      |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,<br>MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,<br>EE, HU, SK   |          |                  |      |
| CN 1726607             | A  | 20060125 | CN 2003-80106425 |      |
|                        |  |          |                  | 2003 |
|                        |  |          |                  | 1010 |
| <--                    |  |          |                  |      |
| JP 2006511916          | T2   | 20060406 | JP 2004-564784   |      |
|                        |  |          |                  | 2003 |
|                        |  |          |                  | 1010 |
| <--                    |  |          |                  |      |
| US 2005247400          | A1   | 20051110 | US 2005-179401   |      |
|                        |  |          |                  | 2005 |
|                        |  |          |                  | 0712 |
| <--                    |  |          |                  |      |
| PRIORITY APPLN. INFO.: |  |          | US 2002-324585   | A    |
|                        |  |          |                  | 2002 |
|                        |  |          |                  | 1219 |
| <--                    |  |          |                  |      |
|                        |  |          | WO 2003-US32378  | W    |
|                        |  |          |                  | 2003 |
|                        |  |          |                  | 1010 |

AB    Organic electroluminescent devices are described which comprise a first electrode; a second electrode; a light-emitting structure disposed between the first and second electrodes; a conductive layer disposed over at least a portion of the second electrode; and a nonconductive material defining an opening through which the conductive layer is in elec. communication with the second electrode. Methods of

preparing an organic electroluminescent device are discussed which entail forming an electroluminescent structure comprising a first electrode, a second electrode, and a light-emitting structure, where the light-emitting structure is disposed between the first and second electrodes; forming an opening in a nonconductive material; aligning the opening in the nonconductive material with a surface of the second electrode; and establishing an elec. communication between a conductive layer and the second electrode through the opening in the nonconductive material.

IT 710307-34-9  
 (organic electroluminescent device and encapsulation method)

RN 710307-34-9 HCAPLUS

CN 2-Propenoic acid, 2-[ [3-hydroxy-2,2-bis[ [(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[ [(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with Ebecryl 629 (9CI) (CA INDEX NAME)

CM 1

CRN 121448-64-4

CMF Unspecified

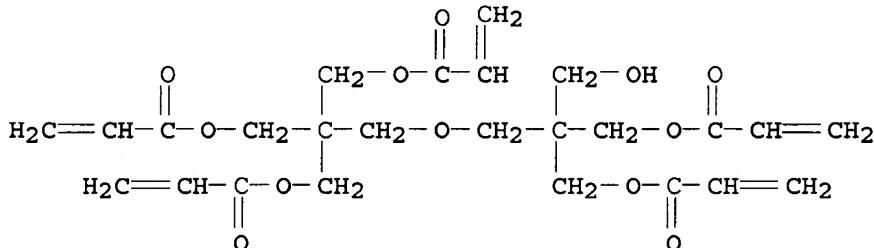
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 60506-81-2

CMF C25 H32 O12



IC ICM H01J001-62  
 ICS H01J063-04

INCL 313506000; 313512000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

ST org electroluminescent device encapsulation

IT Alkali metals, uses

Alkaline earth metals

(electrode; organic electroluminescent device and encapsulation method)

IT Drying agents

(encapsulating material containing; organic electroluminescent device and encapsulation method)

IT Adhesives

(encapsulating material; organic electroluminescent

- device and encapsulation method)
- IT Polymers, uses
  - (encapsulating material; organic electroluminescent device and encapsulation method)
- IT Electroluminescent devices
  - Electronic packages
  - Electronic packaging process
  - Semiconductor device fabrication
    - (organic electroluminescent device and encapsulation method)
- IT Polyesters, uses
  - (organic electroluminescent device and encapsulation method)
- IT Carbides
  - Nitrides
  - Oxides (inorganic), uses
    - Oxynitrides
      - (substrate; organic electroluminescent device and encapsulation method)
- IT 155090-83-8, Baytron P 4083
  - (buffer layer; organic electroluminescent device and encapsulation method)
- IT 2085-33-8, Aluminum tris(8-hydroxyquinolino) 122648-99-1,
  - 9,10-Bis(2-naphthyl)anthracene
    - (electron-transporting layer; organic electroluminescent device and encapsulation method)
- IT 7440-50-8, Copper, uses 277754-19-5, Thermobond 845
  - 277754-21-9, Thermobond 845EG
    - (encapsulating material; organic electroluminescent device and encapsulation method)
- IT 200052-70-6, DCJTB
  - (fluorescent dopant; organic electroluminescent device and encapsulation method)
- IT 123847-85-8, NPD
  - (hole-transporting layer; organic electroluminescent device and encapsulation method)
- IT 26009-24-5, Covion PDY132
  - (light-emitting layer; organic electroluminescent device and encapsulation method)
- IT 7440-21-3, Silicon, uses
  - (n-doped electrode; organic electroluminescent device and encapsulation method)
- IT 7429-90-5, Aluminum, uses 7440-22-4, Silver, uses 7440-70-2,
  - Calcium, uses 7789-24-4, Lithium fluoride, uses 25038-59-9,
    - PET, uses 50926-11-9, Indium tin oxide 710307-34-9
      - (organic electroluminescent device and encapsulation method)

REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:370732 HCAPLUS  
 DOCUMENT NUMBER: 140:397189  
 TITLE: Material composition for producing optical-waveguide and method for producing optical waveguide  
 INVENTOR(S): Inui, Yukitoshi; Kondo, Kuniyoshi; Yamashita, Tatsuya; Kawasaki, Akari; Kagami, Manabu; Ito, Hiroshi; Sato, Shin; Kato, Hisao

PATENT ASSIGNEE(S) : Toyoda Gosei Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 29 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE              |
|---|------|----------|-----------------|-------------------|
| EP 1416301  | A1   | 20040506 | EP 2003-24527   | 2003<br>1027      |
| <--   |      |          |                 |                   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,<br>MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,<br>EE, HU, SK |      |          |                 |                   |
| JP 2004151160   | A2   | 20040527 | JP 2002-313421  | 2002<br>1028      |
| <--   |      |          |                 |                   |
| JP 2004149579   | A2   | 20040527 | JP 2002-313422  | 2002<br>1028      |
| <--   |      |          |                 |                   |
| US 2004131320   | A1   | 20040708 | US 2003-693605  | 2003<br>1027      |
| <--   |      |          |                 |                   |
| PRIORITY APPLN. INFO.:  |      |          | JP 2002-313421  | A<br>2002<br>1028 |
| <--   |      |          |                 |                   |
|   |      |          | JP 2002-313422  | A<br>2002<br>1028 |
| <--   |      |          |                 |                   |

AB A method of fabricating an optical waveguide is described entailing preparing an optical member for use in optical transmission and emitting leakage light to its surroundings; and curing a photo-curable resin having a lower refractive index after curing than a refractive index of an outer circumference of the optical member by using the leakage light to thereby deposit the cured photo-curable resin on a surface of the optical member wherein the cured photo-curable resin is formed by curing a mixture solution of a first photo-curable resin of a low refractive index and a second photo-curable resin of a high refractive index different in curing mechanism; the leakage light is capable of curing the first photo-curable resin but incapable of curing the second photo-curable resin; the method entails curing both the first photo-curable resin and the second photo-curable resin after curing the first photo-curable resin by using the leakage light; and the refractive index of at least one portion of the cured photo-curable resin decreases monotonously as the position of the cured photo-curable resin goes farther from the surface of the optical member. A material composition for producing an optical waveguide, is described comprising a radical polymerizable material; a cationic polymerizable material; a radical polymerization initiator for initiating polymerization of the radical

polymerizable material by light irradiation; and a cationic polymerization initiator for initiating polymerization of the cationic polymerizable material by light irradiation; wherein light irradiation at a specific wavelength is effective in activating the radical polymerization initiator but ineffective in activating the cationic polymerization initiator, and a refractive index of the cured radical polymerizable material is lower than a refractive index of the cured cationic polymerizable material.

IT 686773-19-3P

(polymer material composition for producing optical-waveguide and method for producing optical waveguide)

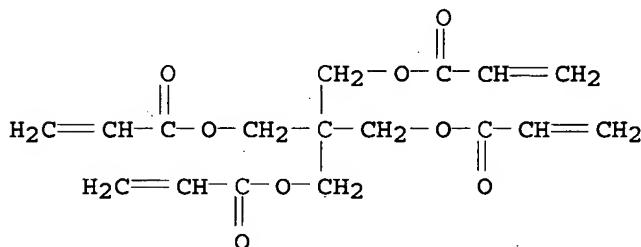
RN 686773-19-3 HCAPLUS

CN 2-Propenoic acid, 2,2-bis[[ (1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2,2'-(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] (9CI) (CA INDEX NAME)

CM 1

CRN 4986-89-4

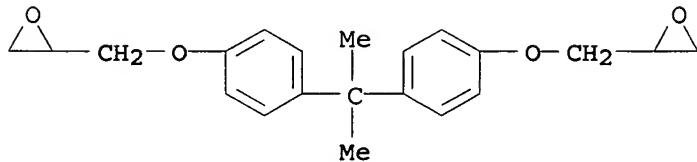
CMF C17 H20 O8



CM 2

CRN 1675-54-3

CMF C21 H24 04



IC ICM G02B001-04

ICS G02B006-12; C08J003-24; C08F002-50

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s) : 38

IT 61041-95-0P 64787-95-7P 686773-16-0P 686773-17-1P

**686773-18-2P**    **686773-19-3P**    **686773-20-6P**    **686773-21-7P**

686773-22-8P 686773-23-9DP, alicyclic

(polymer material composition for producing optical-waveguide and method for producing optical waveguide)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE

## IN THE RE FORMAT

L30 ANSWER 3 OF 15 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:312269 HCPLUS  
 DOCUMENT NUMBER: 140:347196  
 TITLE: Antireflection films with hard coat layers and their production and curable compositions for producing them and polarizing plates and display devices using them  
 INVENTOR(S): Obayashi, Tatsuhiko; Ishizuka, Takahiro;  
 Ibuki, Shuntaro; Muramatsu, Yuuzou  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: U.S. Pat. Appl. Publ., 55 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO.       | DATE              |
|------------------------|------|----------|-----------------------|-------------------|
| -----                  | ---- | -----    | -----                 |                   |
| US 2004070041          | A1   | 20040415 | US 2003-612022        | 2003<br>0703      |
| JP 2004170901          | A2   | 20040617 | JP 2003-271447        | 2003<br>0707      |
| PRIORITY APPLN. INFO.: |      |          | <--<br>JP 2002-197958 | A<br>2002<br>0705 |
|                        |      |          | <--<br>JP 2002-211815 | A<br>2002<br>0719 |
|                        |      |          | <--<br>JP 2002-320326 | A<br>2002<br>1101 |
|                        |      |          | <--                   |                   |

OTHER SOURCE(S): MARPAT 140:347196  
 AB Antireflective films comprising at least a hard coat layer and a low-refractive-index layer containing a binder polymer on a transparent support are described in which the hard coat layer and/or the low-refractive-index layer contains a hydrolyzate of an organosilane in which a hydroxyl group or a hydrolysable group is directly bonded to silicon, and/or a partial condensation product thereof; and ≥1 metal chelate compound of ROH (R = C1-10 alkyl) and R<sub>4</sub>COCH<sub>2</sub>COR<sub>5</sub> (R<sub>4</sub> = C1-10 alkyl; R<sub>5</sub> = C1-10 alkyl or alkoxy) as ligands and a metal selected from Zr, Ti, and Al as the central metal. The hard coat layer may contain an inorg. filler composed of an oxide of ≥1 of Zr, Ti, Al, In, Zn, Sn, Sb, and Si. Methods of producing an antireflection films are described which entail coating a hard coat layer and a low-refractive-index layer containing a binder polymer, on a transparent support, wherein a coating solution of the hard coat

layer and/or a coating solution of the low-refractive-index layer comprises: the hydrolyzate of the organosilane and/or the partial condensation product ; the metal chelate compound; and a  $\beta$ -diketone compound and/or a  $\beta$ -ketoester compound represented by formula R<sub>4</sub>OCOR<sub>5</sub>. Curable compns. suitable for producing the films are described. Display devices utilizing the antireflective films and/or the polarizing plates are also described.

IT 82277-45-0P, Dipentaerythritol hexaacrylate-dipentaerythritol pentaacrylate copolymer  
(antireflection films with hard coat layers  
and their production and curable compns. for producing them and polarizing plates and display devices using them)

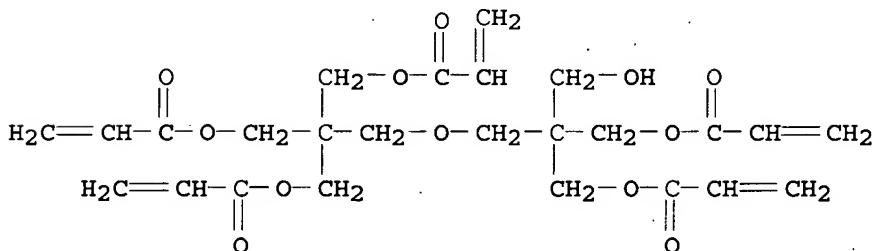
RN 82277-45-0 HCAPLUS

CN 2-Propenoic acid, 2-[[3-hydroxy-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]1,3-propanediyl ester, polymer with 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 60506-81-2

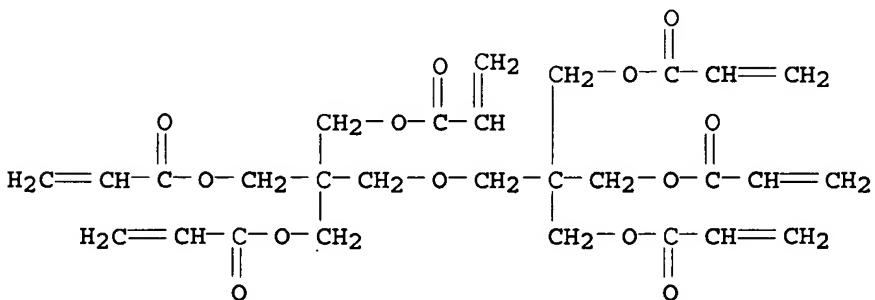
CMF C25 H32 O12



CM 2

CRN 29570-58-9

CMF C28 H34 O13



IC ICM H01L031-0232

INCL 257437000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 42, 74  
 ST antireflection film hard coat layer prodn;  
 polarizing plate antireflection film hard coat; display device polarizing plate antireflection film hard coat  
 IT Antireflective films  
 Coating materials  
 Coating process  
 Optical imaging devices  
 Polarizers  
 (antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT Fluoropolymers, uses  
 Polysiloxanes, uses  
 (antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT Fluoropolymers, uses  
 (di-Me siloxane-, Opstar JN 7228; antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT Polysiloxanes, uses  
 (di-Me, fluorine-containing, Opstar JN 7228; antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT 1312-43-2, Indium oxide 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1327-33-9, Antimony oxide 1332-29-2, Tin oxide 1344-28-1, Aluminum oxide, uses 7440-32-6D, Titanium, compds. 7440-67-7D, Zirconium, compds. 7631-86-9, Silicon oxide, uses 13463-67-7, Titanium oxide, uses 14782-75-3, Diisopropoxyaluminum ethyl acetoacetate 365440-38-6, DeSolite Z7526 407630-06-2, DeSolite Z7401  
 (antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT 9003-53-6, Polystyrene 9011-14-7, Polymethyl methacrylate 141551-31-7, Dipentaerythritol hexaacrylate-dipentaerythritol pentaacrylate-trimethylolpropane triacrylate copolymer 192120-80-2, X-22-169AS  
 (antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT 355023-96-0P  
 (antireflection films with hard coat layers and their production and curable compns. for producing them and polarizing plates and display devices using them)  
 IT 814-68-6DP, Acrylic acid chloride, reaction products with fluoroolefin polymers 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, compds. and hydrolyzates 2530-85-0DP, 3-Methacryloyloxypropyltrimethoxysilane, compds. and hydrolyzates 4369-14-6DP, 3-Acryloyloxypropyltrimethoxysilane, compds. and hydrolyzates 82277-45-0P, Dipentaerythritol hexaacrylate-dipentaerythritol pentaacrylate copolymer 613687-03-9DP, reaction products with acrylic acid chloride 655244-55-6P

(antireflection films with hard coat layers  
and their production and curable compns. for producing  
them and polarizing plates and display devices using them)

L30 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:100844 HCAPLUS  
 DOCUMENT NUMBER: 140:171928  
 TITLE: Thin film material using  
pentaerythritol acrylate for  
encapsulation of organic or polymeric  
light emitting device, and  
encapsulation method for LED  
using the same  
 INVENTOR(S): Kim, Gi Heon; Oh, Ji Young; Yang, Yong Suk;  
Lee, Jeong Ik; Do, Lee Mi; Zyung, Tae Hyoung  
 S. Korea  
 PATENT ASSIGNEE(S):  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE              |
|------------------------|------|----------|-----------------|-------------------|
| US 2004024105          | A1   | 20040205 | US 2003-628253  | 2003<br>0729      |
| <--                    |      |          |                 |                   |
| PRIORITY APPLN. INFO.: |      |          | KR 2002-45479   | A<br>2002<br>0801 |
| <--                    |      |          |                 |                   |
|                        |      |          | KR 2003-47638   | A<br>2003<br>0712 |

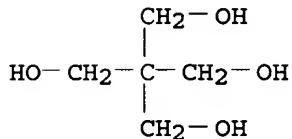
OTHER SOURCE(S): MARPAT 140:171928  
 AB Materials for thin-film encapsulation of organic  
or polymeric light-emitting devices are  
described which comprise poly(pentaerythritol acrylate) produced  
by polymerization of pentaerythritol acrylate monomers. The materials  
may addnl. comprise polymers other than poly(pentaerythritol  
acrylate). Encapsulation methods for organic or polymeric  
light-emitting devices are described which  
entail preparing a mixture of pentaerythritol acrylate monomers and a  
polymerization initiator, coating the surface of an organic or polymeric  
light-emitting device with the mixture using a  
spin coating process, bar coating process, spreading process, or  
simple immersion process; and polymerizing the monomer.  
 IT 92625-64-4, Pentaerythritol acrylate homopolymer  
(pentaerythritol acrylate polymers for encapsulation  
of organic or polymeric light-emitting devices  
and methods for encapsulating devices using them)  
 RN 92625-64-4 HCAPLUS  
 CN 2-Propenoic acid, ester with 2,2-bis(hydroxymethyl)-1,3-  
propanediol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 56093-53-9  
 CMF C5 H12 O4 . x C3 H4 O2

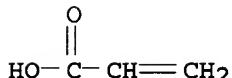
CM 2

CRN 115-77-5  
 CMF C5 H12 O4



CM 3

CRN 79-10-7  
 CMF C3 H4 O2



IC ICM C23C016-00  
 ICS C08K003-34  
 INCL 524492000; 427248100; 524450000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 38, 76  
 ST pentaerythritol acrylate polymer light emitting device encapsulation  
 IT Potting compositions  
 (pentaerythritol acrylate polymer-based compns. for encapsulation of organic or polymeric light-emitting devices)  
 IT Electroluminescent devices  
 (pentaerythritol acrylate polymers for encapsulation of organic or polymeric light-emitting devices and methods for encapsulating devices using them)  
 IT Potting  
 (using pentaerythritol acrylate polymers for encapsulation of organic or polymeric light-emitting devices)  
 IT 92625-64-4, Pentaerythritol acrylate homopolymer  
 (pentaerythritol acrylate polymers for encapsulation of organic or polymeric light-emitting devices and methods for encapsulating devices using them)  
 IT 374750-37-5, HSP188  
 (polymerization initiator; potting compns. for encapsulation of organic or polymeric light-emitting devices containing)

L30 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:893026 HCAPLUS

DOCUMENT NUMBER: 139:388205  
 TITLE: High refraction film, high  
       refraction film-forming coating  
       composition, anti-reflection film,  
       protective film for polarizing  
       plate, polarizing plate and image display  
       device  
 INVENTOR(S): Nakamura, Kenichi; Ootani, Tadayuki  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 269 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE     | APPLICATION NO. | DATE         |
|------------------------|--|----------|-----------------|--------------|
| WO 2003093878          | A2   | 20031113 | WO 2003-JP5476  | 2003<br>0428 |
| WO 2003093878          | A3   | 20040923 |                 | <--          |
| W:                     | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,<br>CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,<br>GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP,<br>KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,<br>MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,<br>SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,<br>VC, VN, YU, ZA, ZM, ZW |          |                 |              |
| RW:                    | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,<br>AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,<br>DE, DK, EE, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,<br>PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,<br>GQ, GW, ML, MR, NE, SN, TD, TG   |          |                 |              |
| JP 2004029705          | A2   | 20040129 | JP 2002-362873  | 2002<br>1213 |
| JP 2004191873          | A2   | 20040708 | JP 2002-362856  | 2002<br>1213 |
| JP 2004249495          | A2   | 20040909 | JP 2003-40041   | 2003<br>0218 |
| AU 2003231551          | A1   | 20031117 | AU 2003-231551  | 2003<br>0428 |
| US 2005175796          | A1   | 20050811 | US 2003-511035  | 2003<br>0428 |
| PRIORITY APPLN. INFO.: |  |          | JP 2002-129929  | A            |
|                        |  |          |                 | 2002<br>0501 |
|                        |  |          | JP 2002-362856  | A            |

|                |      |
|----------------|------|
|                | 2002 |
|                | 1213 |
| ---            |      |
| JP 2002-362873 | A    |
|                | 2002 |
|                | 1213 |
| ---            |      |
| JP 2003-40041  | A    |
|                | 2003 |
|                | 0218 |
| WO 2003-JP5476 | W    |
|                | 2003 |
|                | 0428 |

OTHER SOURCE(S) : MARPAT 139:388205

AB A high refraction film, an anti-reflection film, a protective film for polarizing plate, a polarizing plate and an image display device excellent in weathering resistance are provided. The high refraction film comprises inorg. fine particles having an average particle diameter of from 1 to 200 nm comprising titanium dioxide as a main component and has a refractive index of from 1.55 to 2.40. The anti-reflection film comprises a transparent support on which at least a high refraction film is formed. The polarizing plate comprises a polarizing film and two protective films having the polarizing film interposed between them, where an anti-reflection film is used as at least one of the two protective films or where an anti-reflection film is used as one protective film and an optically compensated film having optical isomerism is used as another protective sheet. The image display device has a structure comprising an anti-reflection film or a polarizing plate disposed on the image display surface.

IT 82277-45-0

(high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

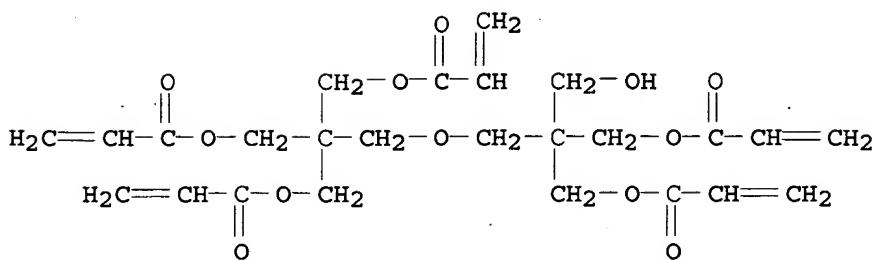
RN 82277-45-0 HCPLUS

CN 2-Propenoic acid, 2-[3-hydroxy-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

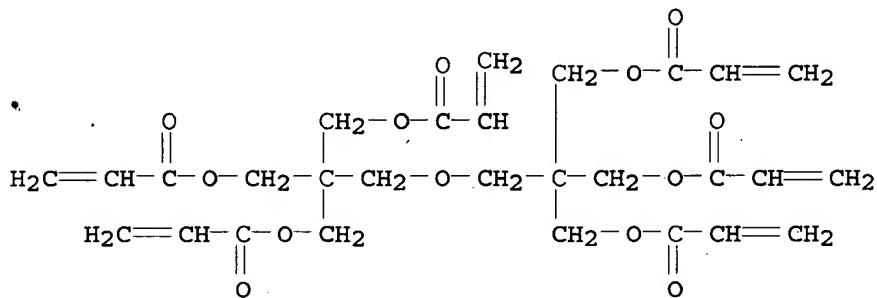
CM 1

CRN 60506-81-2

CMF C25 H32 O12



CM 2

CRN 29570-58-9  
CMF C28 H34 O13

IC ICM G02B001-11  
 ICS G02B005-30; G02F001-133; C09C001-00  
 CC 73-2 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 36, 38, 42, 74  
 ST refraction film coating antireflection protective polarizing plate display device  
 IT Dispersing agents  
 (anionic; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)  
 IT Transparent materials  
 (antireflective film support; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)  
 IT Polymers, uses  
 (co-, layer in antireflection film; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)  
 IT Inorganic compounds  
 Organic compounds, uses  
 Organometallic compounds  
 (coating; high refraction film, high refraction

film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Fluoropolymers, properties  
 (di-Me siloxane-, Opstar JN7228 crosslinked with silane polymer; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Polysiloxanes, properties  
 (di-Me, fluorine-containing, Opstar JN7228 crosslinked with silane polymer; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Photorefractive materials  
 (films; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Silazanes  
 (heptadecafluorodecyl silsesquiazanes, water-repellent surface active agent; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Antireflective films  
 Dispersing agents  
 Optical imaging devices  
 Polarizing films  
 (high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Fluoropolymers, uses  
 (high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Coating materials  
 (high refraction; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Optical materials  
 (isomeric, discotic; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Binders  
 (organic; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT Liquid crystal displays  
 (polarizing plate; high refraction film, high refraction film-forming coating composition, anti-reflection film, protective film for polarizing plate, polarizing plate and image display device)

IT 7553-56-2, Iodine, uses

(adsorbed on polarizing plate; high refraction film,  
high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 7429-90-5D, Aluminum, compds. 7440-48-4D, Cobalt, compds.  
7440-67-7D, Zirconium, compds.  
(coating; high refraction film, high refraction  
film-forming coating composition, anti-reflection  
film, protective film for polarizing plate,  
polarizing plate and image display device)

IT 623962-01-6  
(copolymer in low refractive layer; high refraction  
film, high refraction film-forming coating  
composition, anti-reflection film, protective film  
for polarizing plate, polarizing plate and image display  
device)

IT 9003-53-6, Polystyrene  
(crosslinked particles; high refraction film, high  
refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 101483-17-4, Di(tert-butylphenyl iodonium hexafluorophosphate)  
(hard coat layer containing; high refraction film  
, high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 13463-67-7, Titanium dioxide, properties 82277-45-0  
160716-45-0 623961-69-3 623961-76-2  
(high refraction film, high refraction film  
-forming coating composition, anti-reflection film,  
protective film for polarizing plate, polarizing  
plate and image display device)

IT 7664-93-9, Sulfuric acid, uses 206254-81-1  
(high refraction film, high refraction film  
-forming coating composition, anti-reflection film,  
protective film for polarizing plate, polarizing  
plate and image display device)

IT 365440-38-6, DeSolite Z7526 623961-82-0 623961-90-0  
623961-95-5  
(high refraction film, high refraction film  
-forming coating composition, anti-reflection film,  
protective film for polarizing plate, polarizing  
plate and image display device)

IT 12673-86-8, Antimony tin oxide  
(particles; high refraction film, high refraction  
film-forming coating composition, anti-reflection  
film, protective film for polarizing plate,  
polarizing plate and image display device)

IT 9002-89-5, Polyvinyl alcohol  
(polarizing plate component, adhesive; high refraction  
film, high refraction film-forming coating  
composition, anti-reflection film, protective film  
for polarizing plate, polarizing plate and image display  
device)

IT 7631-86-9, Silica, properties  
(polymer-dispersed particles; high refraction film,  
high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 1314-23-4, Zirconium oxide, properties

(polymer-dispersed particles; high refraction film,  
high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 1310-73-2, Sodium hydroxide, uses  
(saponifying solution containing; high refraction film, high  
refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 14475-63-9, Zirconium hydroxide 21645-51-2, Aluminum hydroxide,  
uses  
(surface treatment using; high refraction film, high  
refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 7429-90-5, Aluminum, properties 7440-48-4, Cobalt, properties  
7440-67-7, Zirconium, properties  
(titanium dioxide doped with; high refraction film,  
high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 991-84-4, 2,4-Bis(n-octylthio)-6-(4-hydroxy-3,5-di-tert-  
butylanilino)-1,3,5-triazine  
(transparent support prepared using; high refraction film  
, high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 79-20-9, Methyl  
acetate 108-94-1, Cyclohexanone, uses 115-86-6, Triphenyl  
phosphate 60893-79-0, Biphenyldiphenyl phosphate  
(transparent support prepared using; high refraction film  
, high refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

IT 9012-09-3, Triacetyl cellulose  
(transparent support; high refraction film, high  
refraction film-forming coating composition,  
anti-reflection film, protective film for  
polarizing plate, polarizing plate and image display device)

L30 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:345203 HCAPLUS  
 DOCUMENT NUMBER: 136:348080  
 TITLE: Anti-glare and anti-reflection film  
and polarizing plate  
 INVENTOR(S): Obayashi, Tatsuhiko; Sotozono, Hirohisa  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| -----         | ---- | -----    | -----           |              |
| -----         |      |          |                 |              |
| JP 2002131507 | A2   | 20020509 | JP 2000-324152  | 2000<br>1024 |

PRIORITY APPLN. INFO.:

<--  
JP 2000-3241522000  
1024

&lt;--

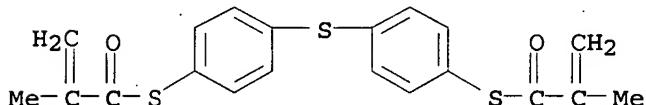
AB Title film comprises a high refractive index (1.57 - 2.50) layer with average particle diameter 1.0 - 10.0  $\mu\text{m}$  and a low refractive index (1.30 - 1.43) layer with  $\geq 1$  F-containing Si-compound prepared by a mixture of hydrolysis products and partial condensated compns. of (Rf1)aR1bSiXc or X3SiRf2SiX3, and R3aSiX4-a [Rf1 = F-containing C1-20 alkyl with  $\geq 1$  ether or ester bonds; Rf2 =  $\geq 1$  F-containing divalent linkage optionally with ether or ester bonds; R1 = C1-10 alkyl; X = alkoxy, halo, or R2CO2 (R2 = H or C1-10 alkyl); R3 = C1-20 alkyl; a + b + c = 4; a, c = 1 - 3; b = 0 - 2; d = 0 - 3]. The optical film shows haze 3.0 - 20.0%, and the average reflectivity at 450 - 650 nm is < 1.8%.

IT 399510-23-7, DPHA-MPSMA copolymer  
(anti-glare and anti-reflection film and polarizing plate)

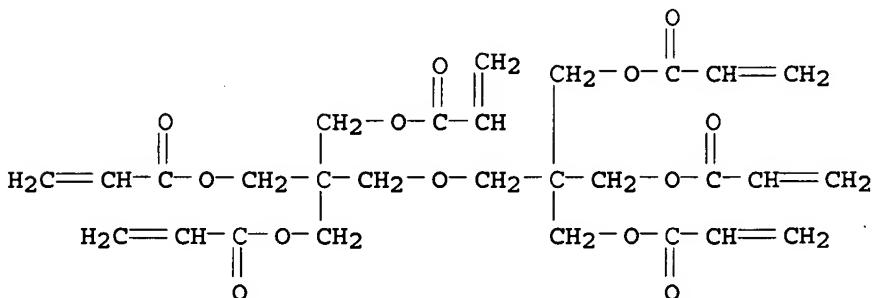
RN 399510-23-7 HCPLUS

CN 2-Propenoic acid, 2-[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[(1-oxo-2-propenyl)oxy]methyl-1,3-propanediyl ester, polymer with S,S'-(thiodi-4,1-phenylene) bis(2-methyl-2-propenethioate) (9CI)  
(CA INDEX NAME)

CM 1

CRN 129283-82-5  
CMF C20 H18 O2 S3

CM 2

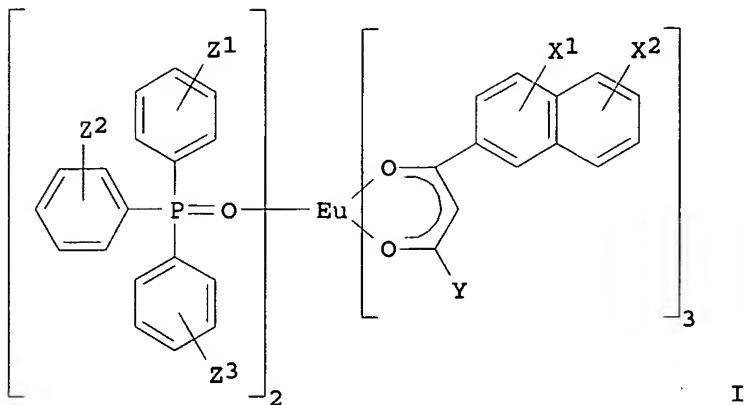
CRN 29570-58-9  
CMF C28 H34 O13

IC ICM G02B001-11

ICS B32B007-02; B32B027-00; C09K003-00; G02B001-10; G02B005-02;  
G02B005-30; G02F001-1335  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)  
 Section cross-reference(s): 42  
 ST antiglare antireflection film polarizer polysilane  
 hydrolyzate  
 IT Polysilanes  
 (anti-glare and anti-reflection film and polarizing  
 plate)  
 IT Polarizing films  
 (anti-glare and anti-reflection of)  
 IT Antireflective films  
 (polarizing plate containing anti-glare and)  
 IT 7631-86-9, Silica, uses 29570-58-9, DPHA 220524-99-2  
 355137-65-4, SX-200H 370884-29-0, JSR KZ-7991  
 399510-23-7, DPHA-MPSMA copolymer 404575-06-0  
 418253-06-2  
 (anti-glare and anti-reflection film and polarizing  
 plate)  
 IT 71868-10-5, Irgacure 907  
 (photoinitiator; anti-glare and anti-reflection film  
 and polarizing plate)  
 IT 82799-44-8, Kayacure DETX  
 (photosensitizer; anti-glare and anti-reflection film  
 and polarizing plate)

L30 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2001:927420 HCAPLUS  
 DOCUMENT NUMBER: 136:77031  
 TITLE: Red luminescent material and  
 composite  
 INVENTOR(S): Ikeda, Masaaki; Onishi, Masao; Kiyoyagi,  
 Noriko  
 PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND             | DATE     | APPLICATION NO. | DATE              |
|------------------------|------------------|----------|-----------------|-------------------|
| -----                  | ---              | -----    | -----           | -----             |
| -----                  |                  |          |                 |                   |
| JP 2001354953          | A2               | 20011225 | JP 2001-109876  | 2001<br>0409      |
| <--                    |                  |          |                 |                   |
| PRIORITY APPLN. INFO.: |                  |          | JP 2000-108573  | A<br>2000<br>0410 |
| <--                    |                  |          |                 |                   |
| OTHER SOURCE(S):       | MARPAT 136:77031 |          |                 |                   |
| GI                     |                  |          |                 |                   |



**AB** The invention refers to a red luminescent material and ink comprising I [X<sub>1,2</sub> = H, halo, alkyl, alkoxy, hydroxyl, amino, alkylamino, dialkylamino, aryl or aralkyl; Y = C<sub>1-10</sub> fluoro-hydrocarbon; Z<sub>1-3</sub> = H, halo, alkyl, alkoxy, amino, alkylamino, dialkylamino, aryl or aralkyl].

**IT** 383177-72-8  
(red luminescent material and composite)

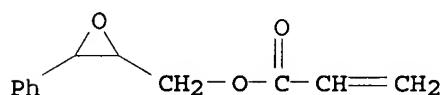
**RN** 383177-72-8 HCPLUS

**CN** 2-Propenoic acid, 2-[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (3-phenyloxiranyl)methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 142960-60-9

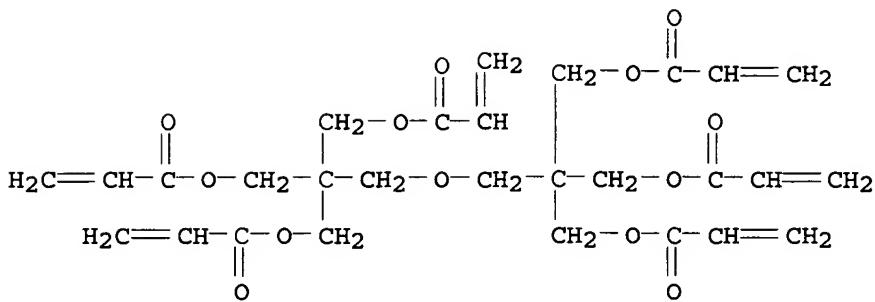
CMF C<sub>12</sub> H<sub>12</sub> O<sub>3</sub>



CM 2

CRN 29570-58-9

CMF C<sub>28</sub> H<sub>34</sub> O<sub>13</sub>



IC ICM C09K011-06  
ICS C09D011-00

CC 73-11 (optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST red ink luminescent material  
IT Inks

**Luminescent substances**

(red luminescent material and composite)

IT 540-72-7, Sodium thiocyanate 872-50-4, N-Methyl-2-pyrrolidone, uses 9003-22-9, Vinyl chloride-vinyl acetate copolymer 383177-72-8

(red luminescent material and composite)

IT 383191-23-9P

(red luminescent material and composite)

IT 791-28-6, Triphenylphosphine oxide 893-33-4, 4,4,4-Trifluoro-1-(2-naphthyl)-1,3-butanedione 13759-92-7, Europium chloride hexahydrate

(red luminescent material and composite)

L30 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:864891 HCAPLUS

DOCUMENT NUMBER: 136:12611

TITLE: Electroconductive antireflective materials, their manufacture, and their uses in touch panels

INVENTOR(S): Morimoto, Yoshihiro

PATENT ASSIGNEE(S): Nof Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND  | DATE     | APPLICATION NO. | DATE  |
|---------------|-------|----------|-----------------|-------|
| -----         | ----  | -----    | -----           | ----- |
| -----         | ----- | -----    | -----           | ----- |
| JP 2001330707 | A2    | 20011130 | JP 2000-148505  | 2000  |

0519

<--

PRIORITY APPLN. INFO.: JP 2000-148505

2000  
0519

<--

AB The materials possess multilayers of high- and low-n

layers with n of 1.60-1.90 (nH) and 1.30-1.55 (nL), resp., and ITO layers in the order on transparent supports (e.g. plastic films). The low-n layers may contain 10-100% fluoropolymers prepared from H<sub>2</sub>C:CX<sub>1</sub>CO<sub>2</sub>Y<sub>1</sub>OCOCX<sub>2</sub>:CH<sub>2</sub> [X<sub>1</sub>, X<sub>2</sub> (X<sub>1</sub> ≠ X<sub>2</sub>) = H, Me; Y<sub>1</sub> = ≥2 (/mol.)-F-containing C<sub>1</sub>-14 alkylene, ≥4-F-containing C<sub>3</sub>-14 cycloalkylene, or CY<sub>2</sub>HCH<sub>2</sub> (Y<sub>2</sub> = ≥3-F-containing C<sub>1</sub>-14 alkyl, ≥4-F-containing C<sub>3</sub>-14 cycloalkyl), CH<sub>2</sub>CX<sub>3</sub>[CO<sub>2</sub>CH(OZ<sub>1</sub>)Y<sub>3</sub>]CH<sub>2</sub> [Y<sub>3</sub> = ≥2-F-containing C<sub>1</sub>-14 alkyl; X<sub>3</sub> = H, C<sub>1</sub>-3 alkyl; Z<sub>1</sub> = H, (meth)acrylic acid residue], or CH<sub>2</sub>CHZ<sub>2</sub>CH<sub>2</sub>Y<sub>4</sub>CH<sub>2</sub>CHZ<sub>3</sub>CH<sub>2</sub> [Y<sub>4</sub> = ≥2-F-containing C<sub>1</sub>-14 alkylene; Z<sub>2</sub>, Z<sub>3</sub> = H, (meth)acrylic acid residue]]. The antireflective layers are prepared by wet process and have controlled thickness d<sub>H</sub> and d<sub>L</sub>, where 4d<sub>H</sub>nH 500-800 is satisfied and the maximum antireflective effects against 500-650-nm light are offered by the optimization of d<sub>L</sub>. Electronic displays employing the materials as electromagnetic shields and touch panels employing the same as transparent contacts are also claimed. The displays show improved visibility.

IT 372967-44-7P

(antireflective layers; electroconductive  
antireflective materials, their manufacture, and their uses in touch  
panels)

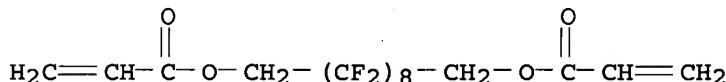
RN 372967-44-7 HCPLUS

CN 2-Propenoic acid, 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-1,10-decanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 125635-55-4

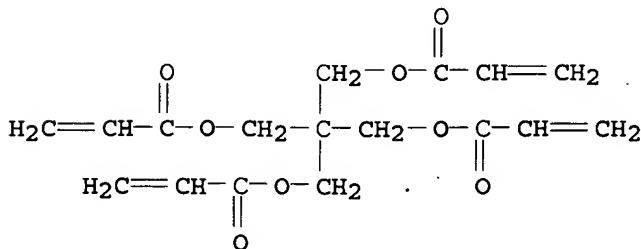
CMF C16 H10 F16 O4



CM 2

CRN 4986-89-4

CMF C17 H20 O8



IC ICM G02B001-11

ICS C23C014-08; C23C014-20; G02F001-1335; G02F001-1343

CC 73-11 (Optical, Electron, and Mass Spectroscopy and

Other Related Properties)

Section cross-reference(s): 38, 74, 76

ST electroconductive antireflection sheet touch panel visibility; acrylic fluoropolymer antireflective layer electromagnetic shield; indium tin oxide coated antireflective material; electronic display television electromagnetic shield contact

IT Fluoropolymers, properties  
(acrylic, antireflective layers; electroconductive antireflective materials, their manufacture, and their uses in touch panels)

IT Antireflective films  
(sheets, electroconductive; electroconductive antireflective materials, their manufacture, and their uses in touch panels)

IT 7631-86-9, XBA ST, properties  
(antireflective layers; electroconductive antireflective materials, their manufacture, and their uses in touch panels)

IT 27775-58-2P, Tetramethylolmethane triacrylate homopolymer  
88233-95-8P 194877-44-6P 372967-44-7P  
(antireflective layers; electroconductive antireflective materials, their manufacture, and their uses in touch panels)

IT 50926-11-9, Indium tin oxide  
(electroconductive layers; electroconductive antireflective materials, their manufacture, and their uses in touch panels)

L30 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:864890 HCAPLUS

DOCUMENT NUMBER: 136:12610

TITLE: Colorless antireflective materials with high hardness and their uses in electronic display devices

INVENTOR(S): Nojima, Takayuki; Morimoto, Yoshihiro

PATENT ASSIGNEE(S): Nof Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND  | DATE     | APPLICATION NO. | DATE         |
|---------------|-------|----------|-----------------|--------------|
| -----         | ----- | -----    | -----           | -----        |
| -----         | ----- | -----    | -----           | -----        |
| JP 2001330706 | A2    | 20011130 | JP 2000-147863  | 2000<br>0519 |

PRIORITY APPLN. INFO.: JP 2000-147863

2000  
0519

<--

AB The materials, offering improved visibility to electronic displays, possess outermost low-n layers on transparent supports via adhesive layers which satisfy difference in n between the supports  $\leq 0.04$ . The adhesive layers may be prepared from UV-curable compns. containing multifunctional fluoroacrylates  $(H_2C:CH_1CO_2)_mY_1(OCOCX_1:CH_2)_n [X_1,$

X2 (X1 ≠ X2) = H, Me; Y1 = ≤4-OH- and 2-24-F-containing C1-14 alkylene, ≥4-F-containing C3-14 cycloalkylene, CY2HCH2 (Y2 = ≥3-F-containing C1-14 alkyl, ≥4-F-containing C3-14 cycloalkyl), or CH2CZ1[CO2CY3HC(OZ2)HY4]CH2 [Y3, Y4 = alternatively H or 3-24-F-containing C1-14 alkyl; Z1 = H, C1-3 alkyl, Z2 = H, (meth)acryloyl]; m, n = 1, 2].

IT 372967-41-4P

(adhesive layers; colorless and hard antireflective materials with good scratch resistance and antireflection effects for displays)

RN 372967-41-4 HCPLUS

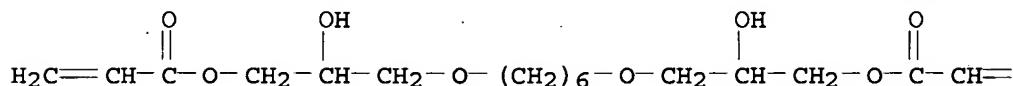
CN 2-Propenoic acid, 1,6-hexanediylibis[oxy(2-hydroxy-3,1-propanediyl)] ester, polymer with 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 83045-03-8

CMF C18 H30 O8

## PAGE 1-A



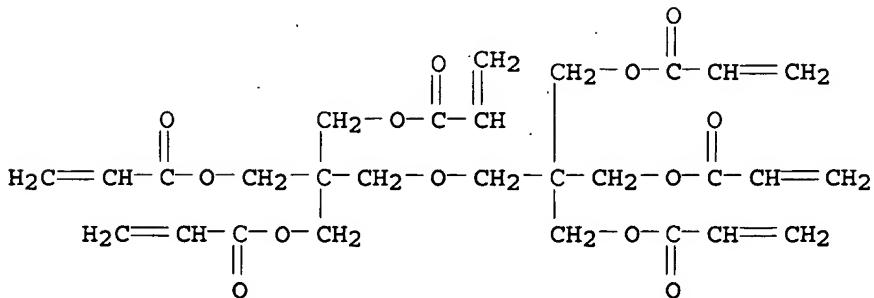
## PAGE 1-B

 $\text{=CH}_2$ 

CM 2

CRN 29570-58-9

CMF C28 H34 O13



IT 372967-44-7P

(low-n layers; colorless and hard antireflective

materials with good scratch resistance and antireflection effects for displays)

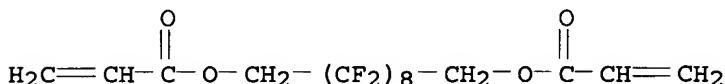
RN 372967-44-7 HCPLUS

CN 2-Propenoic acid, 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-1,10-decanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 125635-55-4

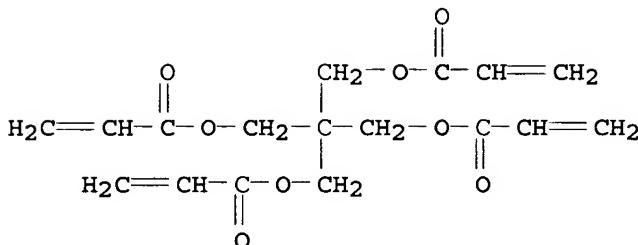
CMF C16 H10 F16 O4



CM 2

CRN 4986-89-4

CMF C17 H20 O8



IC ICM G02B001-11

ICS B32B007-02; B32B027-30; G09F009-00; H04N005-72

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 74

ST colorless antireflective material adhesive layer contg; photocurable adhesive bonded antireflective material; electronic display antireflective material visibility improvement

IT Adhesives

Antireflective films

(colorless and hard antireflective materials with good scratch resistance and antireflection effects for displays)

IT 372967-41-4P 372967-42-5P

(adhesive layers; colorless and hard antireflective materials with good scratch resistance and antireflection effects for displays)

IT 374063-41-9, DeSolite Z 7521

(adhesive layers; colorless and hard antireflective materials with good scratch resistance and antireflection effects for displays)

IT 194877-44-6P 372967-44-7P

(low-n layers; colorless and hard antireflective materials with good scratch resistance and antireflection

effects for displays)

L30 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2000:706480 HCAPLUS  
 DOCUMENT NUMBER: 133:288603  
 TITLE: Antireflection film and its production method  
 INVENTOR(S): Amimori, Ichiro; Nakamura, Kazuhiro  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND          | DATE     | APPLICATION NO. | DATE         |
|------------------------|---------------|----------|-----------------|--------------|
| JP 2000275401          | A2            | 20001006 | JP 1999-76489   | 1999<br>0319 |
| <--                    |               |          |                 |              |
| PRIORITY APPLN. INFO.: | JP 1999-76489 |          |                 | 1999<br>0319 |
| <--                    |               |          |                 |              |

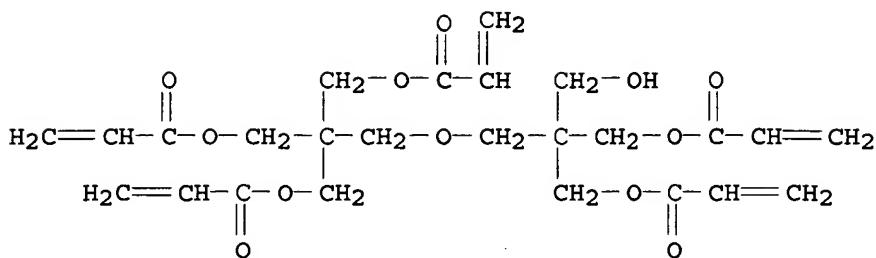
AB The invention refers to an antireflection film and comprising a substrate, a undercoating layer, a hard coat layer and a low n layer wherein the low n layer has an average roughness of 0.05 - 2 µm, and an n lower than that of the substrate and is a coated layer, and the undercoating layer is a polymer with > 10% weight of alc. or phenol monoacrylate ester or a methacrylate ester in order to create a coated antireflection film with properties comparable to that of a deposited film.

IT 82277-45-0  
 (antireflection film and production method)

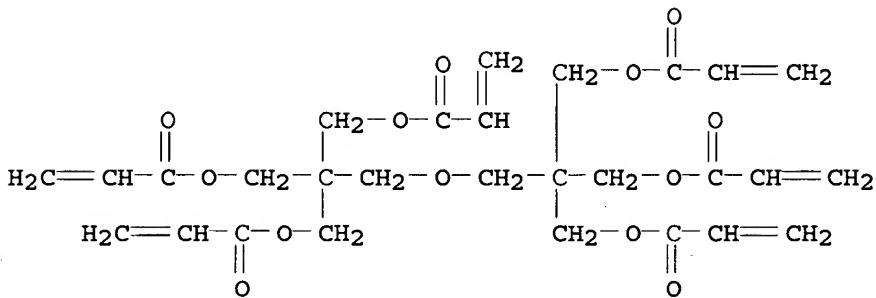
RN 82277-45-0 HCAPLUS  
 CN 2-Propenoic acid, 2-[3-hydroxy-2,2-bis[[[1-oxo-2-propenyl]oxy]methyl]propoxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2-[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[1-oxo-2-propenyl]oxy]methyl]propoxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 60506-81-2  
 CMF C25 H32 O12



CM 2

CRN 29570-58-9  
CMF C28 H34 O13

IC ICM G02B001-11  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST antireflection film coating  
 IT Antireflective films  
     Coating materials  
         (antireflection film and production method)  
 IT 78-93-3, Methyl ethyl ketone, uses 1310-58-3, Potassium hydroxide, uses 2439-35-2 2530-85-0, KBM-503 7727-21-1, Potassium persulfate 9012-09-3, Triacetyl cellulose 13463-67-7, Titania, uses 25135-39-1 71868-10-5, Irgacure 907 82277-45-0 82799-44-8, Kayacure DETX 94099-99-7 94100-00-2  
         (antireflection film and production method)  
 IT 577-11-7, Sodium dioctyl sulfosuccinate  
         (antireflection film and production method)

L30 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1999:142417 HCAPLUS  
 DOCUMENT NUMBER: 130:229809  
 TITLE: Fluorine-containing monomer composition containing inorganic compound microparticles, low-refractive index material, and antireflection film  
 INVENTOR(S): Yoshida, Tatsuo; Kimura, Yasuhiro; Watanabe, Kenji; Ikeda, Tomoyuki; Ito, Tetsuya; Goto, Yoshitaka  
 PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

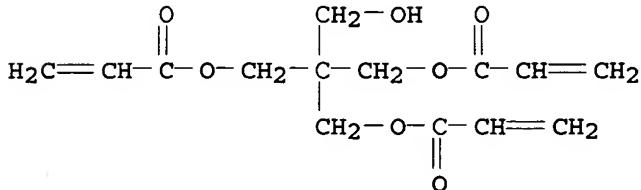
| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE         |
|-------------|------|----------|-----------------|--------------|
| JP 11060637 | A2   | 19990302 | JP 1997-224882  | 1997<br>0821 |
| JP 3724132  | B2   | 20051207 | JP 1997-224882  | 1997<br>0821 |

PRIORITY APPLN. INFO.: <--  
 AB The composition contains inorg. compound microparticles and monomers containing 5-100% R1OCH<sub>2</sub>C(OR<sub>2</sub>)HRC(OR<sub>4</sub>)HCH<sub>2</sub>OR<sub>3</sub> (R1-4 = H, (meth)acryloyl, R1 and/or R2 and R3 and/or R4 are (meth)acryloyl; R = C<sub>2</sub>-12 fluoroalkylene containing ≥2 F). The compn is cured to give the title material having reflective index ≤1.49. The film comprising a transparent substrate and the material layer is also claimed. The film has high surface hardness, scratch resistance, and adhesion strength to a substrate.  
 IT 220857-32-9P 220857-60-3P  
 (low-refractive index material for antireflection film obtained by curing of composition containing F-containing monomers and inorg. compound microparticles)  
 RN 220857-32-9 HCAPLUS  
 CN 2-Propenoic acid, 2-(hydroxymethyl)-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 4,4,5,5,6,6,7,7-octafluoro-1,2,9,10-decanetetrol 1,9(1,10 or 2,9)-di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 3524-68-3

CMF C14 H18 O7

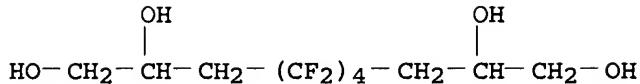


CM 2

CRN 194930-69-3  
 CMF C16 H18 F8 O6  
 CCI IDS

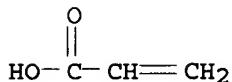
CM 3

CRN 194930-68-2  
 CMF C10 H14 F8 O4



CM 4

CRN 79-10-7  
 CMF C3 H4 O2

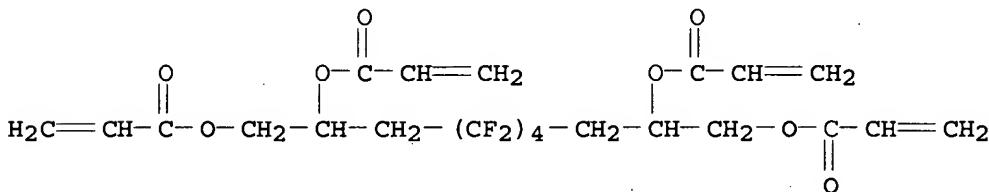


RN 220857-60-3 HCAPLUS

CN 2-Propenoic acid, 4,4,5,5,6,6,7,7-octafluoro-1,2,9,10-decanetetrayl ester, polymer with 2-(hydroxymethyl)-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

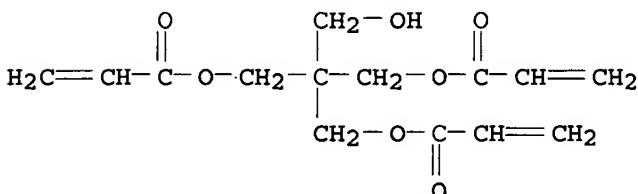
CM 1

CRN 194877-44-6  
 CMF C22 H22 F8 O8



CM 2

CRN 3524-68-3  
 CMF C14 H18 O7



IC ICM C08F020-22  
 ICS B32B007-02; B32B027-30; C08K003-00; C08L033-16; G02B001-11;  
 B05D007-24

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
 Other Related Properties)  
 Section cross-reference(s): 35, 38

ST fluorine monomer inorg particle compn cured;  
 antireflection film fluoropolymer silica microparticle  
 hardness; scratch resistant antireflection film acrylic  
 fluoropolymer

IT Silica gel, uses  
 (XBA-ST, particles; low-refractive index material for  
 antireflection film obtained by curing of  
 composition containing F-containing monomers and inorg. compound  
 microparticles)

IT Fluoropolymers, uses  
 (acrylic; low-refractive index material for antireflection  
 film obtained by curing of composition containing  
 F-containing monomers and inorg. compound microparticles)

IT Antireflective films  
 (low-refractive index material for antireflection film  
 obtained by curing of composition containing F-containing monomers  
 and inorg. compound microparticles)

IT 4369-14-6, KBM 5103  
 (coupling agent for silica particles; low-refractive index  
 material for antireflection film obtained by curing  
 of composition containing F-containing monomers and inorg. compound  
 microparticles)

IT 194877-48-0P 195008-58-3P 220857-29-4P 220857-32-9P  
 220857-36-3P 220857-45-4P 220857-49-8P 220857-55-6P  
 220857-56-7P 220857-57-8P 220857-58-9P 220857-60-3P  
 220857-61-4P 220857-62-5P 220857-63-6P  
 (low-refractive index material for antireflection film  
 obtained by curing of composition containing F-containing monomers  
 and inorg. compound microparticles)

IT 79-10-7, 2-Propenoic acid, reactions 814-68-6, Acryloyl chloride  
 194930-65-9 194930-68-2  
 (monomer from; low-refractive index material for antireflection  
 film obtained by curing of composition containing  
 F-containing monomers and inorg. compound microparticles)

IT 194877-38-8P 194877-39-9P 194877-40-2P 194877-41-3P  
 194877-44-6P 194877-53-7P 194930-66-0P 194930-69-3P  
 219944-77-1P  
 (monomer; low-refractive index material for antireflection  
 film obtained by curing of composition containing  
 F-containing monomers and inorg. compound microparticles)

IT 4986-89-4, Tetramethylolmethane tetraacrylate 220857-48-7  
 (monomer; low-refractive index material for antireflection  
 film obtained by curing of composition containing  
 F-containing monomers and inorg. compound microparticles)

IT 221158-07-2, MFS 10P  
 (particles; low-refractive index material for antireflection  
 film obtained by curing of composition containing  
 F-containing monomers and inorg. compound microparticles)

L30 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1998:352667 HCAPLUS  
 DOCUMENT NUMBER: 129:87802  
 TITLE: Organic electroluminescent devices having  
 transparent photocurable resin substrates and

INVENTOR(S) : production method thereof  
 Tanamura, Mitsuru; Hayakawa, Seiichiro;  
 Karasawa, Tamae

PATENT ASSIGNEE(S) : Mitsubishi Chemical Industries Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE              |
|------------------------|------|----------|-----------------|-------------------|
| JP 10144469            | A2   | 19980529 | JP 1997-244964  | 1997<br>0910      |
| <--                    |      |          |                 |                   |
| PRIORITY APPLN. INFO.: |      |          | JP 1996-242054  | A<br>1996<br>0912 |
| <--                    |      |          |                 |                   |

AB Title devices comprise anodes, organic light-emitting layers, and cathodes laminated on one side of substrates and the substrates comprise photocurable resins, preferably obtained from monomers having  $\geq 2$  (meth)acrylate groups, and have surface roughness 1-50 nm. Thus, a monomer composition comprising p-bis( $\beta$ -methacryloyloxyethylthio)xylylene 99, pentaerythritol tetrakis( $\beta$ -thiopropionate) 1, Lucirin TPO (photoinitiator) 0.05, and benzophenone (photoinitiator) 0.02 parts was cured by UV to give a transparent cured product having surface roughness 12.4 nm, refractive index 1.60, drop impact resistance 40 cm, and flexural modulus 260 kg/mm<sup>2</sup>. An organic electroluminescent device was prepared using the cured product as substrate and gave good luminescence properties.

IT 209157-79-9P, p-Bis( $\beta$ -methacryloyloxyethylthio)xylylene-pentaerythritol tetrakis( $\beta$ -thiopropionate) telomer  
 209157-80-2P  
 (preparation of organic electroluminescent devices having transparent photocurable resins as substrates)

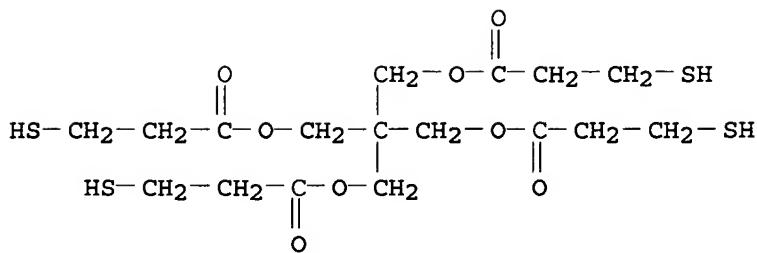
RN 209157-79-9 HCPLUS

CN 2-Propenoic acid, 2-methyl-, 1,4-phenylenebis(methylenethio-2,1-ethanediyl) ester, telomer with 2,2-bis[(3-mercaptopropanoate) (9CI) (CA INDEX NAME)]

CM 1

CRN 7575-23-7

CMF C17 H28 O8 S4

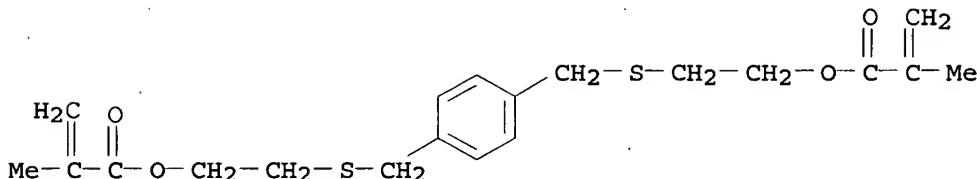


CM 2

CRN 112503-99-8  
CMF (C20 H26 O4 S2)x  
CCI PMS

CM 3

CRN 112503-98-7  
CMF C20 H26 O4 S2

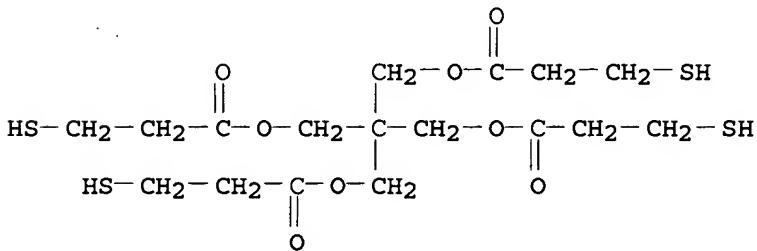


RN 209157-80-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, (octahydro-4,7-methano-1H-indene-5,7-diyil)bis(methylene) ester, telomer with 2,2-bis[(3-mercaptopropanoate) (9CI)  
(CA INDEX NAME)

CM 1

CRN 7575-23-7  
CMF C17 H28 08 S4

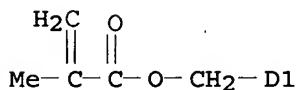
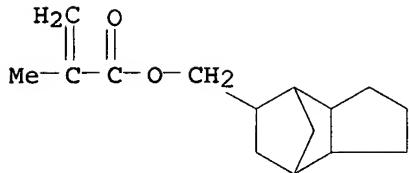


CM , 2

CRN 68812-81-7  
 CMF (C<sub>20</sub> H<sub>28</sub> O<sub>4</sub>)<sub>x</sub>  
 CCI PMS

CM 3

CRN 43048-08-4  
 CMF C<sub>20</sub> H<sub>28</sub> O<sub>4</sub>  
 CCI IDS



IC ICM H05B033-02  
 ICS C08F020-38; H05B033-10  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 IT 209157-79-9P, p-Bis( $\beta$ -methacryloyloxyethylthio)xylylene-pentaerythritol tetrakis( $\beta$ -thiopropionate) telomer  
 209157-80-2P  
 (preparation of organic electroluminescent devices having transparent photocurable resins as substrates)

L30 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1997:195571 HCAPLUS  
 DOCUMENT NUMBER: 126:192757  
 TITLE: Optical multilayer film  
 INVENTOR(S): Nakayama, Yasushi; Matsuo, Ryuichi  
 PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE  | APPLICATION NO. | DATE  |
|------------|------|-------|-----------------|-------|
| -----      | ---- | ----- | -----           | ----- |
| -----      |      |       |                 |       |

|             |    |          |                |              |
|-------------|----|----------|----------------|--------------|
| JP 09021902 | A2 | 19970121 | JP 1995-170860 | 1995<br>0706 |
|-------------|----|----------|----------------|--------------|

|                        |                |              |
|------------------------|----------------|--------------|
| PRIORITY APPLN. INFO.: | JP 1995-170860 | 1995<br>0706 |
|                        | <--            |              |
|                        |                |              |

AB The invention relates to an optical multilayer film, comprising a multilayer structure of a high n layer alternatingly stacked with a low n layer, wherein the high n layer is prepared from metal alkoxyde(s), where the metal is selected from Ti, Zr, Ta, and In, and a composition consisting mainly of compds. containing  $\geq 2$  groups selected from (meth)acryloyl, allyl, and vinyl groups. The optical multilayer film produced has enhanced adhesion to a plastic substrate.

IT 88583-06-6 187604-90-6

(optical multilayer film)

RN 88583-06-6 HCAPLUS

CN 2-Propenoic acid, ester with 2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-propanediol], homopolymer (9CI) (CA INDEX NAME)

CM 1

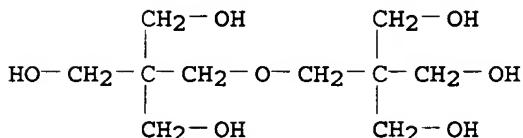
CRN 77641-99-7

CMF C10 H22 O7 . x C3 H4 O2

CM 2

CRN 126-58-9

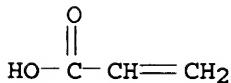
CMF C10 H22 O7



CM 3

CRN 79-10-7

CMF C3 H4 O2



RN 187604-90-6 HCAPLUS

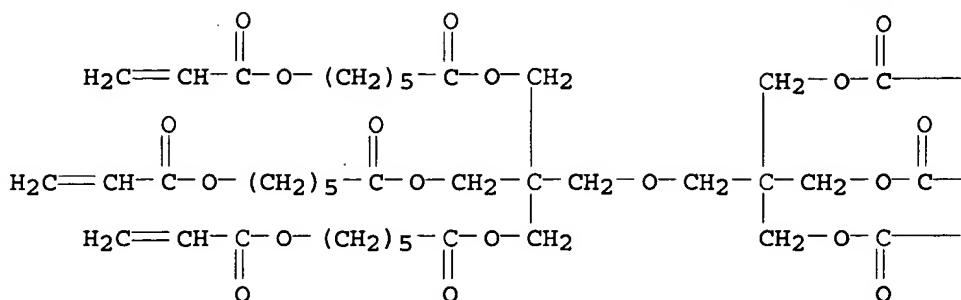
CN Hexanoic acid, 6-[(1-oxo-2-propenyl)oxy]-, 2-[[3-[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]-2,2-bis[[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]methoxy]methyl]-2-[[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]methyl]-1,3-propanediyl ester, polymer with 2-(hydroxymethyl)-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

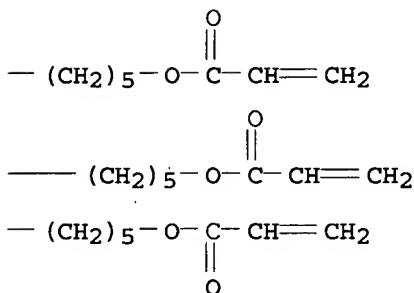
CRN 93294-97-4

CMF C64 H94 O25

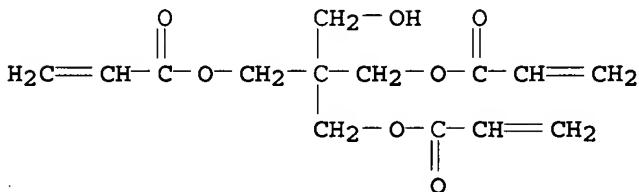
## PAGE 1-A



## PAGE 1-B



CM 2

CRN 3524-68-3  
CMF C14 H18 O7

IC ICM G02B001-11  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST optical multilayer film metal alkoxyde coating  
 IT Coating process  
 Optical materials  
     (optical multilayer film)  
 IT 1314-23-4, Zirconium oxide, uses 13463-67-7, Titanium oxide (tio<sub>2</sub>), uses  
     (optical multilayer film)  
 IT 88583-06-6 110036-79-8 187604-90-6  
     (optical multilayer film)

L30 ANSWER 14 OF 15 HCPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 1996:580022 HCPLUS

DOCUMENT NUMBER: 125:208023  
 TITLE: Photopolymerizable composition for a color filter  
 INVENTOR(S): Urano, Toshiyuki; Ikeda, Shingo; Hino, Etsuko; Kawana, Shin; Ohmori, Takeshi; Mori, Koji  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 40 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                     | KIND    | DATE                 | APPLICATION NO.       | DATE              |
|--------------------------------|---------|----------------------|-----------------------|-------------------|
| EP 723167                      | A2      | 19960724             | EP 1996-100497        | 1996<br>0115      |
| EP 723167<br>R: DE, FR, GB, NL | A3      | 19970402             | <--                   |                   |
| JP 09033715                    | A2      | 19970207             | JP 1995-183898        | 1995<br>0720      |
| JP 09105810                    | A2      | 19970422             | JP 1996-6090          | 1996<br>0117      |
| JP 3633073<br>US 5863678       | B2<br>A | 20050330<br>19990126 | <--<br>US 1996-587483 | 1996<br>0117      |
| JP 09096719                    | A2      | 19970408             | JP 1996-102474        | 1996<br>0424      |
| JP 09105812                    | A2      | 19970422             | JP 1996-102475        | 1996<br>0424      |
| JP 3641876                     | B2      | 20050427             | <--                   |                   |
| PRIORITY APPLN. INFO.:         |         |                      | JP 1995-4899          | A<br>1995<br>0117 |
|                                |         |                      | <--<br>JP 1995-183898 | A<br>1995<br>0720 |
|                                |         |                      | <--<br>JP 1995-190656 | A<br>1995<br>0726 |
|                                |         |                      | <--<br>JP 1995-200789 | A<br>1995<br>0807 |
|                                |         |                      | <--                   |                   |

AB Photopolymerizable compns. for color filters comprise a compound having at least one ethylenically unsatd. double bond, a photopolymn. initiator, and a red, green or blue colorant and which, when formed into a coating film having a dried film thickness of at most 1  $\mu\text{m}$ , has an optical d. of at least 1.1. The compns. may also include polymer binders.

IT 92488-37-4P 181224-74-8P 181224-75-9P  
(photopolymerizable compns. for color filters)

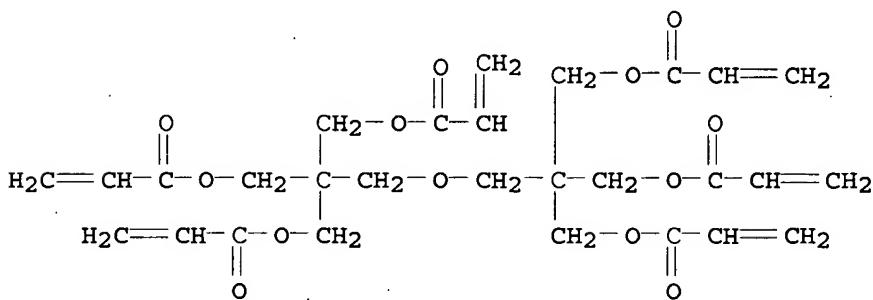
RN 92488-37-4 HCAPLUS

CN 2-Propenoic acid, (1-methylallylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] ester, polymer with 2-[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[1-oxo-2-propenyl]oxy]methyl]propoxy]methyl]-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9

CMF C28 H34 O13

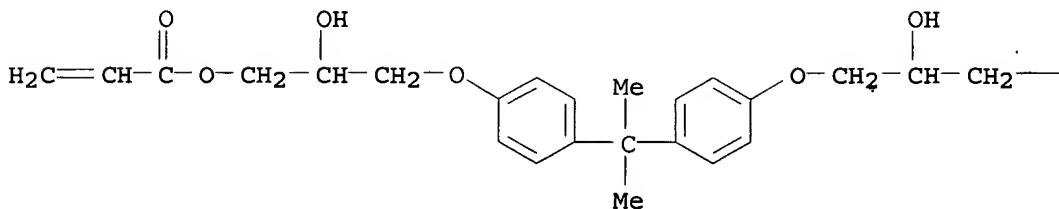


CM 2

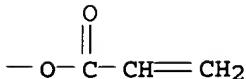
CRN 4687-94-9

CMF C27 H32 O8

PAGE 1-A



PAGE 1-B



RN 181224-74-8 HCAPLUS

CN 2-Propenoic acid, 2-[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[1-oxo-2-propenyl]oxy]methyl]propoxy]methyl]-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with SP 2500 (epoxy resin) (9CI) (CA INDEX NAME)

CM 1

CRN 105287-63-6

CMF Unspecified

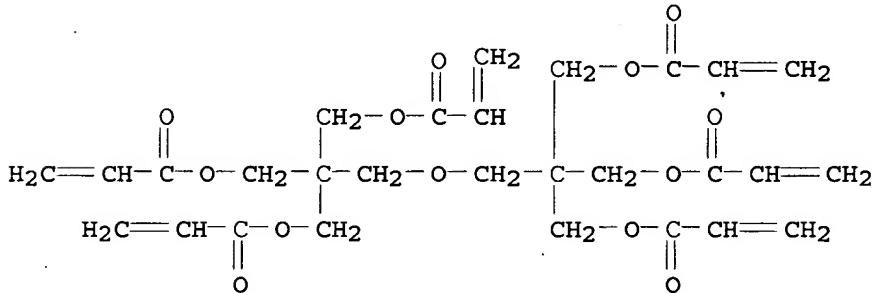
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 29570-58-9

CMF C28 H34 O13



RN 181224-75-9 HCAPLUS

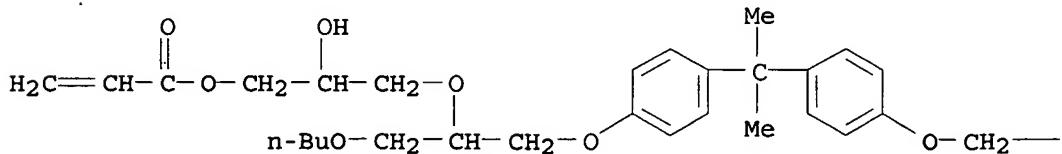
CN 2-Propenoic acid, (1-methylethylidene)bis[4,1-phenyleneoxy[1-(butoxymethyl)-2,1-ethanediyl]oxy(2-hydroxy-3,1-propanediyl)] ester, polymer with 2-[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[1-oxo-2-propenyl]oxy]methyl]propoxy]methyl]-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

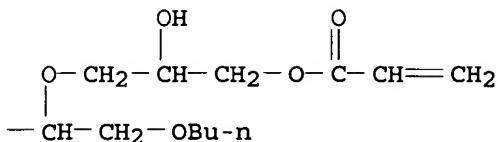
CRN 152796-43-5

CMF C41 H60 O12

PAGE 1-A

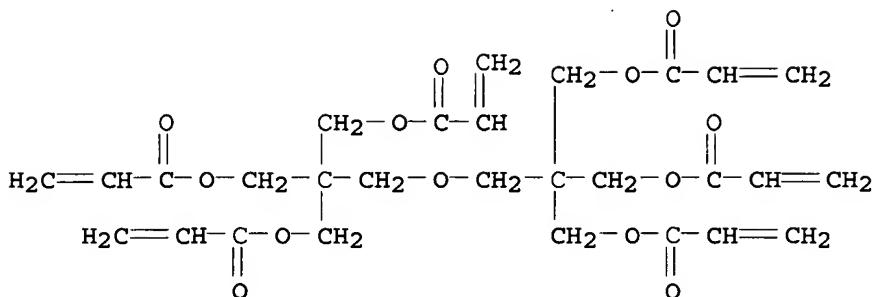


PAGE 1-B



CM 2

CRN 29570-58-9  
CMF C28 H34 013



IC ICM G02B001-04  
ICS G02B005-20  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 38, 74  
ST photopolymerizable compn color filter  
IT Optical filters  
(photopolymerizable compns. for color filters)  
IT Carbon black, uses  
(photopolymerizable compns. for color filters)  
IT 4687-94-9, SP-1509  
(SP 1509; photopolymerizable compns. for color filters)  
IT 90-93-7 90-94-8, Michler's ketone 91-44-1 147-14-8, Lionol Blue ES 149-30-4, 2-Mercaptobenzthiazole 583-39-1 2382-96-9, 2(3H)-Benzoxazolethione 4378-61-4, Lionogen Red GD 6143-80-2 10287-53-3, Ethyl p-dimethylaminobenzoate 10287-54-4, Ethyl p-diethylaminobenzoate 14302-13-7, Lionol Green 2YS 15625-89-5, Trimethylolpropane triacrylate 25086-15-1 29570-58-9, Dipentaerythritol hexaacrylate 42573-57-9 52831-04-6 58293-56-4 62134-40-1 63619-32-9 65697-22-5 72102-92-2 79622-46-1 82799-44-8 105287-63-6, SP 2500 111476-00-7 120123-32-2 125051-32-3 152796-43-5 181224-35-1 181224-39-5 181224-45-3 181224-47-5 181224-51-1 181224-54-4 181224-58-8  
(photopolymerizable compns. for color filters)  
IT 67653-78-5P, Dipentaerythritol hexaacrylate homopolymer 92488-37-4P 181224-74-8P 181224-75-9P 181224-76-0P  
(photopolymerizable compns. for color filters)

IT 872-50-4, uses 84540-57-8, PGMEA  
 (photopolymerizable compns. for color filters)

L30 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1995:408856 HCAPLUS  
 DOCUMENT NUMBER: 122:226385  
 TITLE: Thermochromic light-controlling composition containing oriented liquid-crystal light-controlling layer  
 INVENTOR(S): Kin, Tatsuichiro; Uchama, Akihiko; Igarashi, Satoshi; Nakatani, Kenji  
 PATENT ASSIGNEE(S): Teijin Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE         |
|-------------|------|----------|-----------------|--------------|
| JP 06347741 | A2   | 19941222 | JP 1993-137448  | 1993<br>0608 |
| JP 3270195  | B2   | 20020402 | JP 1993-137448  | 1993<br>0608 |

AB The composition comprises two substrates, ≥1 of which is transparent, interposing a vertically oriented liquid crystal layer (to the substrates) containing 0.05-10 weight% P-type dichroic dye as a light-controlling layer in which the light transmittance is controlled by changing its temperature. The substrates may be coated with oriented films consisting of a polymer obtained by polymerization of a solution mainly containing CH<sub>3</sub>:CR<sub>1</sub>CO(OR<sub>2</sub>)nOR<sub>3</sub> [sic] (R<sub>1</sub> = H, Me; R<sub>2</sub> = C<sub>2</sub>-3 alkylene; R<sub>3</sub> = C<sub>7</sub>-20 alkyl(-substituted benzene); n = 0-2) such as nonylphenoxyethylene glycol acrylate. Absorbing wavelength can be controlled by the composition

IT 161496-35-1P  
 (oriented film; thermochromic light-controlling composition containing oriented liquid-crystal light-controlling layer)

RN 161496-35-1 HCAPLUS

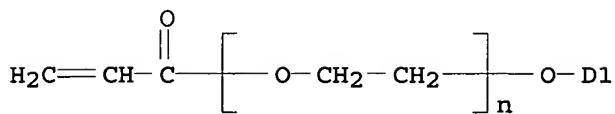
CN 2-Propenoic acid, 2,2-bis[[1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with α-(1-oxo-2-propenyl)-ω-(nonylphenoxy)poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 50974-47-5

CMF (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> C<sub>18</sub>H<sub>26</sub>O<sub>2</sub>

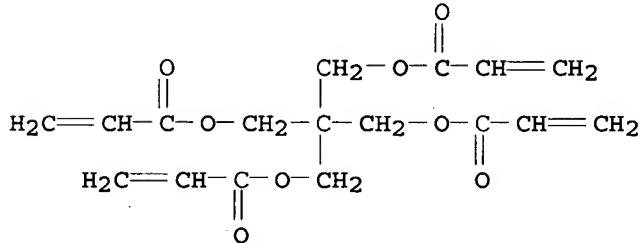
CCI IDS, PMS



D1- (CH<sub>2</sub>)<sub>8</sub>-Me

CM 2

CRN 4986-89-4  
CMF C17 H20 O8



IC ICM G02F001-13

ICS G02F001-13; G02F001-133; G02F001-1337

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 75

ST thermochromism light controlling liq crystal orientation; oriented film liq crystal light controlling

IT Liquid crystals

Thermochromism

(thermochromic light-controlling composition containing oriented liquid-crystal light-controlling layer)

IT 119371-26-5, M 483 161936-87-4, S 416

(dye containing in light-controlling layer; thermochromic light-controlling composition containing oriented liquid-crystal light-controlling layer)

IT 63748-28-7

(light-controlling layer; thermochromic light-controlling composition containing oriented liquid-crystal light-controlling layer)

IT 161496-35-1P

(oriented film; thermochromic light-controlling composition containing oriented liquid-crystal light-controlling layer)